

PM1621 / PM1621A X Ray and Gamma Radiation Personal Dosimeters

The PM1621/PM1621A are professional dosimeters that are designed to measure personal dose equivalent (DE) Hp(10) and personal dose equivalent rate DER Hp(10) of both gamma and X-ray radiation within the wide energy range from the least values of natural background of up to 1Sv/h.

The dosimeters meet the requirements of IEC 61526 standard. The unique characteristics of the dosimeters allow using them for controlling the personnel irradiation levels of those specialists who deal with any photon radiation sources and their high sensitivity makes it possible to register even the slightest variations of the natural background. The dosimeters enable the users to preset two independent dose and dose rate alarm thresholds and when these thresholds are exceeded the dosimeters give audible alarm signals of various types. In this event the LCDs of the dosimeters immediately shows the value which threshold is exceeded thus making it possible to inform the user of being irradiated. In cases when the radiation intensity exceeds the upper limit of dose rate measurement the LCDs of the dosimeters show the warning sign "OL" followed by the interrupted audible signal.

The dosimeters store up to 1000 histories of dose rate measurements, accumulated dose values, events and levels of the preset alarm thresholds exceeding and other information in their non-volatile memory. All these data can be transmitted to a PC through the IR-channel using the special software for further processing and analysis and for its presenting as correspondent databases. Shockproof hermetic case of up-to-date design allows using the dosimeters in harsh environments and their decontaminating. The Electroluminescent backlight enables the user to read the information from the LCD without outer lighting.



Detector	Geiger-Muller tube
Dose equivalent rate measurement range (DER) Hp(10): - PM1621 - PM1621A	0,1 μ Sv/h - 0,1 Sv/h 0,1 μ Sv/h - 1 Sv/h
Dose equivalent rate indication range (DER) Hp(10): - PM1621 - PM1621A	0,01 μ Sv/h - 0,2 Sv/h 0,01 μ Sv/h - 2,0 Sv/h
Dose equivalent rate threshold range	Within all DER measurement range
Dose equivalent measurement range Hp (10) Dose equivalent indication range Hp (10)	1 μ Sv - 9.99 Sv 0.01 μ Sv - 9.99 Sv
Dose equivalent threshold range Maximum permissible intrinsic relative error of DER measurement (H - dose equivalent rate in mSv/h)	Within all DE measurement range $\pm(15+0.0015/H + 0.01H)\%$
Maximum permissible intrinsic relative error of DE measurement	$\pm 15\%$
Energy range	10.0 KeV - 20.0 MeV
Energy response relative to 0,662 MeV (Cs-137) within the full energy range	$\pm 30\%$
Time of response at discontinuous variation of DER (according to IEC 61526), no more than	5s - at increase 10s - at decrease
Coefficient of variation	<15%

Survive after momentary influence of maximum permissible gamma radiation: - PM1621 - PM1621AA	1 Sv/h 10 Sv/h
Additional functions	PC communication mode
Drop test on concrete floor	0.7 m
Power supply	One battery PANASONIC POWER LINE LR6 AA
Battery lifetime (at natural conditions)	12 months
Battery discharge indication (partial and critical)	LCD indication
Operating conditions: - temperature - LCD indication - relative humidity - pressure	from - 40 up to +60 °C from - 20 up to +60 °C up to 98% at 35°C from 84 up to 106,7 kPa
Degree of protection provided by housing	IP67
Dimensions	87x72x35 mm
Weight (with battery), no more than	150 g